

Serial No. 10/783,613

2.

Amendments to the Specification:

Substitute new page 10 with correction shown in line 17.

--of the screw portion. More specifically, distance d between LED chip 6 and the small-diameter reflecting mirror is changed during the use of the illumination apparatus by turning protective cover 1 by one hand, in order to vary the illumination range ahead.

In doing so, irrespective of variations of distance d , the positional relationship between reflecting mirror 4 and LED chip 6 serving as a light source is not changed. Therefore, with any variation of distance d , the illuminance at the center region ahead can be kept at a certain level or higher. On that condition, the degree of extension of forward light distribution from the center to the outside can be adjusted by varying distance d .

In addition, what is important is that two light distribution mechanisms are effectively used for the same light source to provide illumination with higher efficiency than the conventional example, as described above. This is because the light emitted from the light source is received by two light distribution mechanisms and then projected forward, so that the available quantity of light is increased as compared with the conventional example.

(Second Embodiment)

Fig. 10 shows an illumination apparatus in a second embodiment of the present invention. In Fig. 10, a Fresnel lens 8 that is a forward projecting means is arranged in front of the LED chip with a stepped surface [8e] 8s facing forward. The second embodiment differs from the first embodiment in that the small-diameter reflecting mirror is replaced with Fresnel lens 8 as the forward projecting means and that a transparent protective cover 9 is provided. The other parts are the same with the first embodiment. More specifically, LED chip 6 is positioned at the focus of a rotating parabolic mirror serving as a reflecting mirror, and the light reaching the reflecting mirror is projected forward as parallel rays parallel to the optical axis.

Fresnel lens 8 functions similar to a convex lens. The LED chip is arranged at the focus of the Fresnel lens, so that the light reaching the Fresnel lens from the light source is projected forward as parallel rays--